Picea mariana / Chamaedaphne calyculata / Sphagnum spp. Dwarf-shrubland (Black Spruce / Leatherleaf Semi-treed Bog)

COMMON NAME	Black Spruce / Leatherleaf / Peatmoss species Dwarf-shrubland
SYNONYM	Black Spruce / Leatherleaf Semi-treed Bog
PHYSIOGNOMIC CLASS	Dwarf-shrubland (IV)
PHYSIOGNOMIC SUBCLASS	Evergreen dwarf-shrubland (IV.A)
PHYSIOGNOMIC GROUP	Needle-leaved or microphyllous evergreen dwarf-shrubland (IV.A.1)
PHYSIOGNOMIC SUBGROUP	Natural/Semi-natural (IV.A.1.N)
FORMATION	Saturated needle-leaved or microphyllous evergreen dwarf-shrubland (IV.A.1.N.g)
ALLIANCE	CHAMAEDAPHNE CALYCULATA SATURATED DWARF-SHRUBLAND ALLIANCE

CLASSIFICATION CONFIDENCE LEVEL 2

USFWS WETLAND SYSTEM PALUSTRINE

RANGE

Voyageurs National Park

This type occurs throughout the park and is extensive in the Rat Root Peatland.

Globally

This association is found in northern Minnesota, northern Michigan, northern Wisconsin, and Ontario.

ENVIRONMENTAL DESCRIPTION

Voyageurs National Park

This type occurs in confined basins, as part of large peatlands and as part of peatland shores. In the latter case, this type usually occurs away from the water's edge, often separated from it by a shrub bog. The substrate is deep fibric Sphagnum peat, which is mineral poor. High hummocks are often well developed while hollows are poorly developed. The water regime is saturated.

Globally

Sites are on the crests of raised bogs in large peatland complexes, in basin bogs, and occasionally on shores isolated from ground water influence (Sims *et al.* 1989, Harris *et al.* 1996). The substrate is deep fibric Sphagnum peat, which is mineral poor. High hummocks are often well developed while hollows are poorly developed. The water regime is saturated.

MOST ABUNDANT SPECIES

Voyageurs National Park

Stratum	Species
Tall shrub	*Picea mariana, Larix laricina*
Short shrub	*Chamaedaphne calyculata,*
Forb	*Maianthemum trifolium, Sarracenia purpurea*
Graminoid	*Eriophorum vaginatum*
Nonvascular	*Sphagnum magellanicum, Sphagnum fuscum, Sphagnum angustifolium*

Globally

Tall shrub	*Picea mariana, Larix laricina*
Short shrub	*Chamaedaphne calyculata,*
Forb	*Maianthemum trifolium, Sarracenia purpurea*
Graminoid	*Eriophorum vaginatum*
Nonvascular	*Sphagnum magellanicum, Sphagnum fuscum, Sphagnum angustifolium*

CHARACTERISTIC SPECIES

Voyageurs National Park

Chamaedaphne calyculata,Picea mariana, Larix laricina, Eriophorum vaginatum, *Sphagnum* spp.

Globally

Chamaedaphne calyculata,Picea mariana, Larix laricina, Eriophorum spp., *Carex oligosperma, Carex pauciflora, Sarracenia purpurea, Sphagnum* spp.

VEGETATION DESCRIPTION

Voyageurs National Park

Picea mariana and/or *Larix laricina* are the dominate conifers in this community, though in some cases, *Pinus strobus* may be locally abundant. These conifers are present at 10-25% cover and are usually 2-10 m tall. The dwarf-shrub layer consists mainly of *Chamaedaphne calyculata* and usually comprises 90-100% cover. Other dwarf ericaceous shrubs such as *Andromeda polifolia, Kalmia polifolia, Vaccinium oxycoccos* and *Ledum groenlandicum* are often present but rarely make up a significant cover. The herbaceous strata is poorly developed with low species diversity and very sparse cover, typically less than 10%. The most abundant species are *Maianthemum trifolium, Eriophorum vaginatum, Sarracenia purpurea, Carex oligosperma* and *Drosera rotundifolia*. Minerotrophic indicators are absent. *Sphagnum magellanicum, Sphagnum fuscum,* and *Sphagnum angustifolium* form a continuous carpet of peat moss. Typically, *Sphagnum fuscum* dominates the high hummocks, *Sphagnum magellanicum* dominates the lower and developing hummocks and *Sphagnum angustifolium* colonizes the hollows. Other mosses such as *Aulacomnium palustre* and *Polytrichum strictum* may also be present.

Globally

Vegetation structure is complex with a dominant layer of dwarf-shrubs, stunted trees and hummock-hollow microtopography, sometimes referred to as muskeg. Ericaceous dwarf-shrubs dominante the stand, with over 40% cover. Dominant species include *Andromeda polifolia, Chamaedaphne calyculata, Kalmia polifolia*, and *Ledum groenlandicum*. Creeping dwarf-shrubs include *Gaultheria hispidula* and *Vaccinium oxycoccos*. Trees average about 10 - 25% cover, may be stunted (3 m tall), and are often clumped on higher hummocks with intervening, weakly-developed hollows. Typical species include *Picea mariana* and *Larix laricina*. The herbaceous layer contains graminoids such as *Carex oligosperma, Carex pauciflora*, and *Eriophorum vaginatum*, and forbs such as *Maianthemum stellatum* and *Sarracenia purpurea*. The nonvascular layer contains a carpet of *Sphagnum* (including *Sphagnum fuscum* and *Sphagnum magellanicum*), with patches of *Pleurozium schreberi* (Sims *et al.* 1989, Harris *et al.* 1996).

CONSERVATION RANK G?

DATABASE CODE CEGL005218

COMMENTS

Voyageurs National Park

Diagnostic features of the type are the dwarf-shrub layer dominated by *Chamaedaphne calyculata* with 10-25% cover of conifers (typically *Picea mariana* and/or *Larix laricina*). This type differs from the Leatherleaf Bog (CEGL002498) primarily in the density of conifers. That type has less than 10% tree cover. This type is analogous to Ontario's W25 (Harris *et al.* 1996). In large peatlands (like Rat Root Peatland) this community can grade into the woodland phase of the Black Spruce Bog (CEGL002485).

REFERENCES

Harris, A. G., S. C. McMurray, P. W. C. Uhlig, J. K. Jeglum, R. F. Foster, and G. D. Racey. 1996. Field guide to the wetland ecosystem classification for northwestern Ontario. Ontario Ministry of Natural Resources, Northwest Science and Technology, Thunder Bay, Ontario. Field guide FG-01. 74 p.

Sims, R. A., W. D. Towill, K. A. Baldwin, and G. M. Wickware. 1989. Field guide to the forest ecosystem classification for northwestern Ontario. Ontario Ministry of Natural Resources.